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ABSTRACT

The three principle elements of Total Quality Management (TQM) are a focus on customers; an attitude of continuous improvement of a system; and the involvement of everyone within an organization. At Delaware County Community College (DCCC) in Media, Pennsylvania, the first phase of implementing TQM focused on educating top management for the infusion of TQM throughout the college. Subsequently, each of the functional units at DCCC was asked to develop a mission statement for its area, and to identify its customers, suppliers, processes, and products. The process improvement team for the career and counseling center developed its mission statement, identified customers, and identified key processes. For each key process identified, the TQM improvement sequence of Plan, Do, Check, Act (PDCA) was applied, helping to condense and streamline the system to improve customer satisfaction. Problem areas of the TQM process at DCCC included inconsistencies in data and insufficient training in the use of TQM tools. At Fox Valley Technical College (FVTC) in Appleton, Wisconsin, TQM was incorporated into the Instructional Division through inservice training, support and facilitation of faculty teams, and involvement of faculty in planning and evaluation of TQM. Faculty at FVTC used TQM in classroom management as well as incorporating it into the curriculum. Using the Developing a Curriculum (DACUM) process, faculty identified a number of skills and competencies which their graduates should possess; these included a working knowledge of TQM. Flowcharts of DACUM competencies and a resource list are included. (PAA)

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PROCESS IMPROVEMENT TEAMS

A TQM STRATEGY

FOR IMPROVING

COMMUNITY COLLEGE SYSTEMS

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PROCESS IMPROVEMENT TEAMS:

A TQM STRATEGY FOR IMPROVING COMMUNITY COLLEGE SYSTEMS

Good afternoon, and welcome to panel 92, Process Improvement Teams: A TQM Strategy for Improving Community College Systems.

I'm Robbie Needham, Executive Director of Advance SMF, Inc., a consulting firm to community colleges in planning, evaluation and management for quality. I will moderate our panel.

Joining me are Sue Staas, Quality Coordinator at Delaware County Community College, Media, PA, and Callie Zilinsky, Director of the Quality Academy at Fox Valley Technical College, Appleton, WI. My colleagues represent the colleges that have used TQM administratively longer than others, thus are the most experienced, wisest resources on our subject. Sue and Callie know each other well and support each other's work over the telephone. They are together as presenters for the first time in our forum.

Each will talk for twenty minutes, Sue about process improvement in Student Services, specifically, career counseling, then Callie will speak about TQM in the Instructional Division and its reception by faculty and students. We are committed to twenty minutes for questions and discussion.

The major gurus of total quality management (TQM) agree on the major components of this management philosophy and system. Agreed, too, is that process or systems improvement draws on all these components. Distilled to their ultimate core, the underpinnings of TQM are the following:

Focus on Customers

Put customers first, with the aim of meeting or exceeding their expectations, is Deming's prescription, and the motto of many community colleges.

Improve Continuously
Manage and Improve Processes

Instill the attitude of continuous improvement; use the scientific method in problem identification, problem solving; make data-based decisions and strive to improve, even when a process or system appears to be working well.

Involve Everyone

Respecting the abilities of all people within the organization, and their potential, individually and collectively in teams, is central to involving everyone. Educate/train people well; they are the chief resource of the organization.

At Delaware County Community College, while process/systems improvement is grounded on the principles of TQM, it was initially difficult to implement. Managers thought of their work as tasks, and had difficulty seeing their work as processes.

As the implementation effort progressed and managers became conversant with the concepts of work as processes, they realized that functional units throughout the college needed to see their connection with the college mission, which committed DCCC to quality. Each functional unit, therefore, was asked to develop a vision and mission statement, and to subsequently identify their customers, suppliers, processes and products.

In Student Services, for instance, the Career and Counseling Center staff developed the following mission statement:

MISSION

Career and Counseling Center

The mission of the Career and Counseling Center is to facilitate growth and development individually, in groups and/or through information resources. This includes assisting in the resolution of personal, career, academic and transfer questions, concerns or problems; developing and providing special services for specific groups; providing printed, computer and video information resources for self-assessment, career exploration, educational goal setting transfer and job search.

They went on to identify their customers: students, prospective students, alumni, community members, faculty, administrators and support staff.

Then key processes were identified. For example, "provide academic advisement for a wide range of students" was stated as Key Process # Four in the Counseling/Guidance unit. Upon identification of this key process, team members began the process improvement sequence:

P *concern (a problem exists)
*team formation and training
D *flowcharting
*data gathering/analysis/interpretation
C *pilot of improvement
*recheck of data from pilot
A *implement changes to system

Obstacles to providing optimum advisement were identified by means of TQ tools. The three major obstacles--time, inconsistencies in data, and the need for more training--have been addressed one by one. As is often the case, improvement in one area impacted favorably on the others. In this instance, improved training for advisors has speeded the advising process and reduced inaccuracies in the paperwork.

As managers become committed to process management and improvement, they begin to see obstacles and problems in their processes as opportunities for improvement. Systematic process improvement has gradually become the way to do business at DCCC.

Fox Valley Technical College, Appleton, WI, has incorporated TQM into the Instructional Division through inservice training, support and facilitation of faculty teams and through involving faculty in planning and evaluating TQM. As at DCCC, process improvement was not a natural approach to education. Still the faculty have become involved and are using TQM in classroom management as well as incorporating it into the curriculum, both in the general studies and career components.

Combining quality competencies into general studies was a big, positive impetus for faculty to accept TQM. Employers in the area wanted graduates with a working knowledge of TQM. This was verified over and over through the DACUM process for a number of curricula. Since the

faculty of FVTC are committed to preparing students for work, they heeded the DACUM results, and took them one step further into their own classroom management practices.

The Quality Competency Identification Task Force identified the competencies and levels of mastery which every graduate of FVTC would possess. This was done with the intent that by June 1993, FVTC would be able to guarantee that graduates from an Associate Degree or Vocational Diploma program would possess the skills identified in the competency clusters (Figure 1).

Faculty in the Quality improvement Process Specialist Program are finding quality tools useful in program design. During program design, competencies were identified by groups using the Affinity process rather than the DACUM process. As the courses evolved from that process, Tree Diagrams were then used to develop the content and activities for achieving the competencies (Figures 2 and 3).

All faculty at FVTC are presently participating in Phase II of Quality Training, 36 hours of instruction, which encourages faculty to apply PDCA to the instructional process.

Faculty and administration report the preparation and support to include TQM in instruction and classroom management is going well, faculty and administrators report. Students are pleased, too, since they have ongoing opportunities to give feedback to instructors for the improvement of the teaching-learning process. They can make suggestions anytime and receive a response within forty-eight hours. At regular intervals, teachers ask students to give them a grade on their classroom experiences. And students are included in planning for instruction, as respondents to alumni survey, participants in DACUM panels, and student representatives to curriculum planners.

The organization has developed guidelines for excellence in instruction and curriculum. Quality tools and strategies are taught in the Phase Two Training with the expectation that faculty will be able to continuously improve the instructional process (Figure 4, Course Overview).

Both Delaware County Community College and Fox Valley Technical College found that administrators, faculty and staff did not take naturally to process improvement. However, with education, encouragement, support a

college commitment, the transition to TQM throughout the college has been successful. Further, the adoption and expectation for continuous improvement, then for improving and managing college processes, occurs with positive results for everyone: internal customers, who work within the process, and external customers, especially students, who experience the results of college processes that are continuously improving.

Quality Competencies

FVTC plans to guarantee competence in several areas of Total Quality Management for all program graduates. 1993 graduates will be the first group to be covered by the guarantee.

Areas of competence include:

The Changing World of Work

Awareness of changes in the world economy, evolution of work culture and practices, changing expectations of workers, quality gurus

Team Work

Self-knowledge and practice in tools and practices leading to team development and maintenance

Customer Focus

Identification of internal and external customers and the design and use of customer feedback mechanisms

Problem Solving

Application of Plan-do-check-act methodology in solving problems using flow charts, Pareto charts, run charts, and cause and effect diagrams

Process Improvement

Understanding work as a process, awareness of the theory of variation, and application of basic process improvement strategies

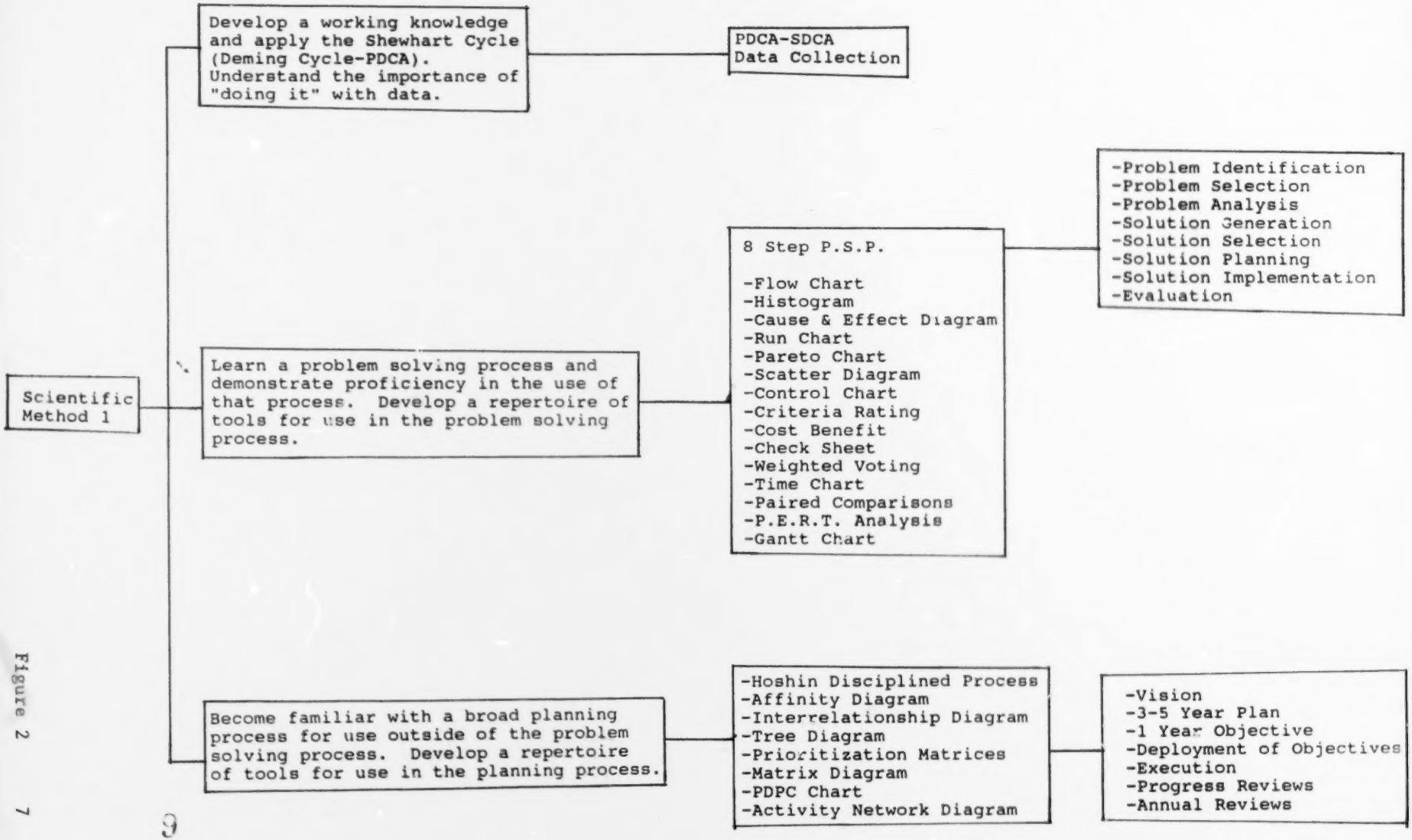
Scientific Method 1
Develop a working knowledge and apply the Shewhart Cycle (Deming Cycle-PDCA). Understand the importance of "doing it" with data.
PDCA-SDCA
Data Collection
Learn a problem solving process and demonstrate proficiency in the use of that process. Develop a repertoire of tools for use in the problem solving process.
8 Step P.S.P.
-Flow Chart
-Histogram
-Cause & Effect Diagram
-Run Chart
-Pareto Chart
-Scatter Diagram
-Control Chart
-Criteria Rating
-Cost Benefit
-Check Sheet
-Weighted Voting
-Time Chart
-Paired Comparisons
-P.E.R.T. Analysis
-Gantt Chart
-Problem Identification
-Problem Selection
-Problem Analysis
-Solution Generation
-Solution Selection
-Solution Planning
-Solution Implementation
-Evaluation
Become familiar with a broad planning process for use outside of the problem solving process. Develop a repertoire of tools for use in the planning process.
-Hoshin Disciplined Process
-Affinity Diagram
-Interrelationship Diagram
-Tree Diagram
-Prioritization Matrices
-Matrix Diagram
-PDPC Chart
-Activity Network Diagram
-Vision
-3-5 Year Plan
-1 Year Objective
-Deployment of Objectives
-Execution
-Progress Reviews
-Annual Reviews

Figure 2 7

SCIENTIFIC METHOD I

185-121
DACUM COMPETENCIES

Shewhart Cycle (Deming Cycle)

Values Related to Data

Problem Solving Process (PDCA) (5.8)

- Investigator
- Decision Making
- Problem Analysis
- Potential Problem Analysis
- Contingency Planning

7 Basic Tools

Planning Process (PDCA)

7 Management Tools (introduction)

Added Complexity of Working in Groups

Scientific Method I Figure 3

Fox Valley Technical College
Quality Phase II Instructor Training

Course Title: Building Teams to Solve Instructional Design Problems

Course Number: 890-101

Prepared/Revised by: Terri Langan, John Hauser
June 1992

Division: General Studies

Length of Course: 36 hours

Prerequisites: Full- or part-time teaching faculty contract

Student Textbooks*:
1. *The 7 Habits of Highly Effective People*, Stephen R. Covey
2. *Accelerated Learning*, Colin Rose
3. Course materials

*Items 1 and 2 are used on a check-out basis, but instructors may purchase these books for their own libraries.

Course Description: This course is an interactive, collaborative seminar designed to explore competency-based curriculum development and flexible delivery techniques in the context of a quality-based institution. It includes concepts of quality and common directions, customer service, team work, and problem solving for improving processes.

General Objectives of the Course:

1. As learner, participants enjoy exploring and applying familiar work unit- and classroom-related knowledge, skills, methods, and techniques in the context of the TQM-based school.

2. As collaborators, participants:
   a. Expand their current library of professional resources, materials, tools, techniques, and technology and add new resources such as multi-media, accelerated delivery, and new technology.
   b. Increase their sharing of ideas, research, through a variety of channels including informal coaching, feedback mechanisms, customer service, team work, and problem solving strategies.

3. As lifelong learners, participants develop and implement a professional growth plan for continuous improvement.

Figure 4

Building Teams for Solving Instructional Design Problems
Content **Outline**

Common Directions

-COMPETENCY CLUSTER

Common Directions in the TQM Educational Organization

-COMPETENCY STATEMENT

Apply this organization's TQM vision/mission to all your professional roles and responsibilities in this organization.

-OBJECTIVES

* Describe your role(s) and responsibilities in the context of your tenure (past/present) with this organization.

* Describe the relationship between the organization's vision/mission and your vision/mission as a professional/ educator.

* Describe your "future" role(s) and responsibilities within the context of TQM in this organization.

* Identify barriers to your carrying out your mission/vision in this organization.

* List ways to overcome the barriers to your carrying out your mission/vision in this organization.

Team Work

-COMPETENCY CLUSTER

Team Work and the Teaching Faculty of the TQM Educational Organization.

-COMPETENCY STATEMENTS

Apply the TQM principle of team work to your role(s) and responsibilities in this organization

Figure 4

-OBJECTIVES

* Describe a "successful work team."

* List and explain roles and responsibilities of successful team members.

* Identify barriers to your functioning as a successful member of a successful work team.

* List ways to overcome the barriers to your functioning as a successful team member.

* Form a work team of 3-5 members.

* Write a set of ground rules that your work team agrees to by consensus.

* Through consensus, develop an evaluation plan for your team.

Customer Service

-COMPETENCY CLUSTER

Customer Service and the Teaching Faculty of the TQM Educational Organization.

-COMPETENCY STATEMENTS

Apply the TQM principle of customer service to your roles and responsibilities as team members and as teachers in this organization.

-OBJECTIVES

* Based on the school's definition of customer service, define "outstanding customer service."

* Based on the school's definition of customer service, demonstrate outstanding customer service in your role as a team member by carrying out your responsibilities in your work team in this class.

* Based on the school's definition of curriculum and instruction and our definition of outstanding customer service, describe the needs of our students as customers in terms of curriculum and delivery.

* Based on the school's definition of curriculum and instruction and our definition of outstanding customer service, demonstrate curriculum and delivery strategies that meet the needs of students as customers in this organization.

Figure 4

* Identify barriers to your carrying out the curriculum and delivery strategies that meet the needs of students as customers in this organization.

* Based on the school's definition of curriculum and instruction and our definition of outstanding customer service, list ways to overcome the barriers to your carrying out the curriculum and delivery strategies that meet the needs of students as customers in this organization.

Process Improvement

-COMPETENCY CLUSTER

Problem Solving for Process Improvement in Curriculum and Delivery Processes.

-COMPETENCY STATEMENT

Apply TQM problem solving strategies to your roles and responsibilities in this organization.

-OBJECTIVES

* Describe the steps and the uses of the P-D-C-A (Plan-Do-Check-Action) cycle as it relates to problem solving, planning, and process improvement.

* Define, give at least one application for, and draw a rough diagram of the listed tools that are used to aid in problem solving, planning, and process improvement.

* Use the P-D-C-A cycle and a minimum of one tool to demonstrate how to overcome one barrier identified in "Common Directions," "Team Work," or "Customer Service" course units.

* Use the P-D-C-A cycle and a minimum of one tool to write an individual professional development plan for the coming year that shows how you will overcome one barrier from any unit in this course.

Figure 4

RESOURCES

Process Improvement Teams
A TQM Strategy for Improving
Community College Systems

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VIDEOCASSETTE

An Inside Job: Meeting Internal Customer Needs. Northbook, IL: Video Arts Inc., 1991.

ADVANCE SMF, Inc. 1992

TQM EDUCATIONAL NETWORKS

American Association of School Administrators Total Quality Network. Contact Gail M. Stephens, 703/875-0748.

Community College Continuous Quality Improvement Network, AACJC. Contact Stanley J. Spanbauer, 414/735-5731.

GOAL/QPC. Contact Diane Ritter, 404/425-0375.

National Educational Quality Initiative (NEQI). Contact Frank Caplan, 206/392-4006.

National Quality in Education Consortium Newsletter. Contact Forrest Gale, Defense Systems Management College, Rm. 202, Bldg. 202, Fort Belvoir, VA 22060-5426.

Total Quality Management in Postsecondary Education. Contact: William A. Golomski, 312/922-5985.

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